

Wire Ropes on Drawworks

Hoisting mechanism on rig that lowers or raises the drill stem and bit

Typical Challenges

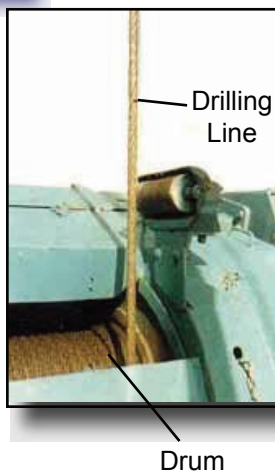
- Wear
- Rust
- Frequent replacement of wire ropes

LE Product Recommendation

- Wirelife™ Monolec® Penetrating Lubricant (2001)
- Wirelife™ Almasol® Coating Lubricant (2002)

LE Benefits

- Ensures rapid penetration and lubrication of rope to the core
- Reduces friction and provides superior wear protection due to Monolec® & Almasol® additives
- Coats to protect against water & rust
- Extends wire rope life
- Reduces re-spools
- Decreases downtime
- Increases production



Grease Points

Main points: Pony rod bearings – main rod off of mud pump; U-Joints – off power drive chain

Typical Challenges

- Pound-out
- Wash-out
- Frequent and costly bearing replacement

LE Product Recommendation

- Almagard® Vari-Purpose Lubricant (3752)
- Monolec® Multiplex Lubricant (4622)

LE Benefits

- Extends regrease intervals
- Reduces bearing replacements by 50%
- Decreases downtime
- Increases production



**WHEN RELIABILITY
IS DEMANDED AND
DOWNTIME IS NOT AN
OPTION, TRUST IN**

**LUBRICATION
ENGINEERS, INC.**





Rotary Table

Used to turn drill stem and support drilling assembly

Typical Challenges

- Contamination (water & dirt)
- Foaming
- Short oil & equipment life
- Downtime

LE Product Recommendation

- Duolec® Industrial Gear Oil (1605-1606)

LE Benefits

- Complete water/oil separation
- Reduces friction and provides superior wear protection due to Duolec®
- Eliminates foaming
- Lengthens equipment life
- Decreases downtime
- Increases production



Diesel Generators

Supply power generation to drilling rig

Typical Challenges

- Short oil life
- Wear
- Heat

LE Product Recommendation

- Monolec Ultra® Engine Oil (8800-8801)
- Full Torque Diesel Fuel Improvers (2411 & 2421)

LE Benefits

- Extends drains by 500-700+ hours (with oil analysis)
- Reduces friction and provides superior wear protection due to Monolec® additive
- Lengthens equipment life
- Decreases downtime
- Increases production



Hydraulic Systems / Top Drive Units

Turn drill stem, elevate boom, operate tongs and other hydraulic equipment

Typical Challenges

- Heat
- Foaming
- Varnishing and sludge

LE Product Recommendation

- Monolec® Hydraulic Oil (6105-6120 & 6520)

LE Benefits

- Reduces operating temperatures by as much as 50°F
- Extended drains (with oil analysis)
- Eliminates foaming
- Reduces friction and provides superior wear protection due to Monolec®
- Eliminates varnish and sludging
- Lengthens equipment life
- Increases production



Mud Pumps

Circulate the mud that serves as the drilling fluid

Typical Challenges

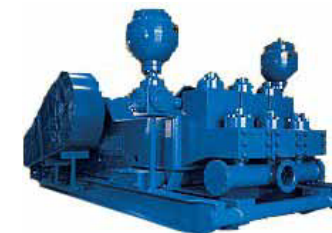
- Water
- Heat
- Frequent replacement of gearboxes

LE Product Recommendation

- Duolec® Industrial Gear Oil (1605-1606)

LE Benefits

- Ensures complete water/oil separation
- Reduces friction and provides superior wear protection due to Duolec® additive
- Extends drain intervals
- Decreases downtime
- Increases production



Swivels & Winches

Rotary tools that permit free rotation of the drill stem

Typical Challenges

- Heavy loads
- Ingression of contaminants
- Oil leakage

LE Product Recommendation

- Duolec® Industrial Gear Oil (1605-1606)

LE Benefits

- Seals out contaminants
- Eliminates foaming
- Reduces friction and provides superior wear protection due to Duolec® additive
- Decreases downtime
- Increases production



Torque Converters & Transmissions

Run the drawworks, mud pumps or rotary table on rig

Typical Challenges

- Heat
- Foaming
- Short oil life
- Frequent replacement

LE Product Recommendation

- Monolec® Power Fluid (7500)

LE Benefits

- Extends drains (with oil analysis)
- Lowers oil temperatures
- Provides longer seal life
- Eliminates foaming
- Reduces friction and provides superior wear protection due to Monolec® additive
- Lengthens equipment life
- Decreases downtime
- Increases production

